

A TERRESTRIAL CADDIS-FLY LARVA FROM TASMANIA (CALOCIDAE: TRICHOPTERA)

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Abstract

The larva and pupa of *Caloca saneva* (Mosely), family Calocidae, are described and figured. Larvae of this species are terrestrial and were collected in pit-traps.

Introduction

The Calocidae is a small family of caddis-flies restricted to the Australian-New Zealand region. At present three Australian genera in this family are recognised (Neboiss, 1977), but so far their immature stages have not been described. From available observations it is known that the larvae of *Tamasia* Mosely and *Caenota* Mosely live in small, fast flowing streams, but until now no data were available for any species in the genus *Caloca* Mosely.

Pit-trap collections made in eastern Tasmania by Mr J. A. Friend of Zoology Department, University of Tasmania, Hobart, were found to contain considerable numbers of caddis-fly larvae and adults. These traps, set for amphipods, were usually placed in wet sclerophyll forest some distance (20-50 m) from the nearest water. The caddis-fly larvae and adults were present irrespective of whether the traps were located in the centre of a cleared area of approximately 2 m diameter, or were completely covered with the surrounding leaf litter. This is the first record from Australia of entirely terrestrial caddis-fly larvae. It is interesting to note that the adults, of which both sexes are fully winged, were also captured in traps and apparently live under the moss and forest debris. The adults were identified as *Caloca saneva* (Mosely). A mature female pupa of this species was also collected at the same locality. Larvae from several localities in the lower Gordon River area, south-west Tasmania, appear to be the same species.

Caloca saneva (Mosely)

(Figs 1-13)

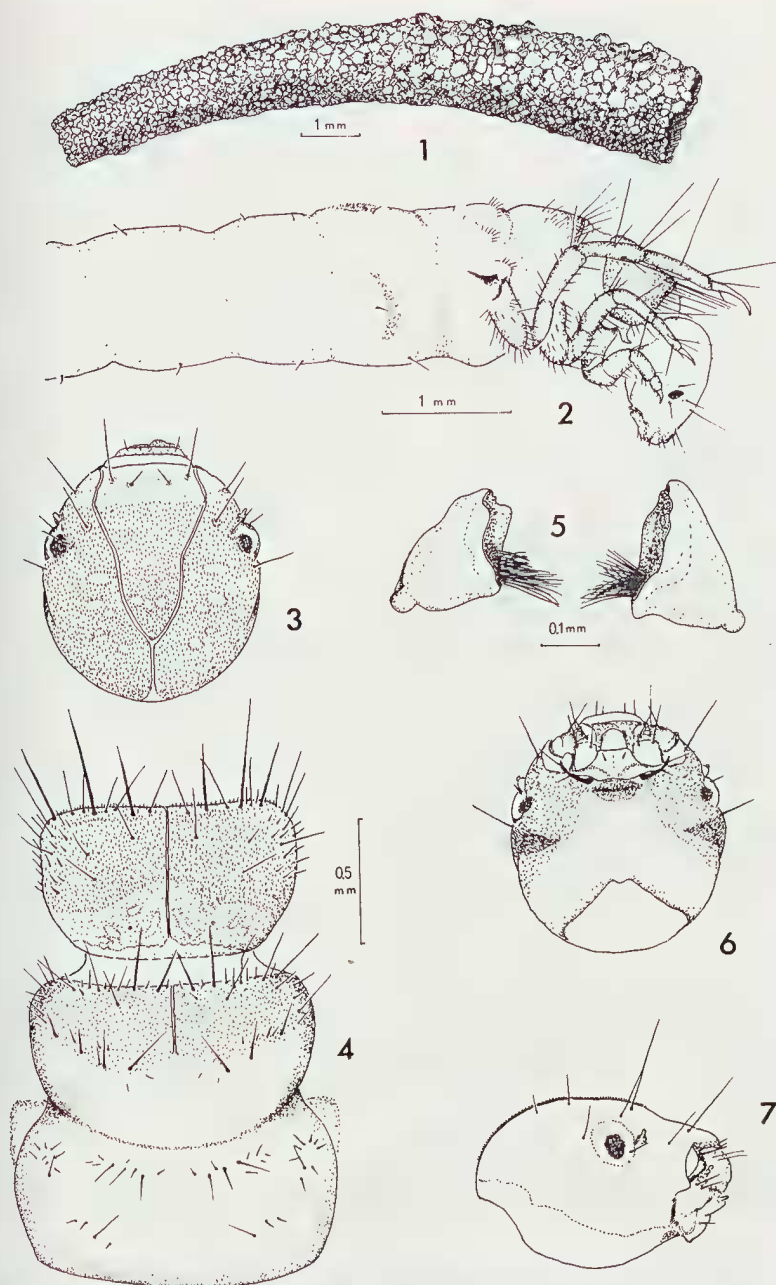
Tismana saneva Mosely in Mosely and Kimmins, 1953: 65.

Caloca saneva, Neboiss, 1977: 91.

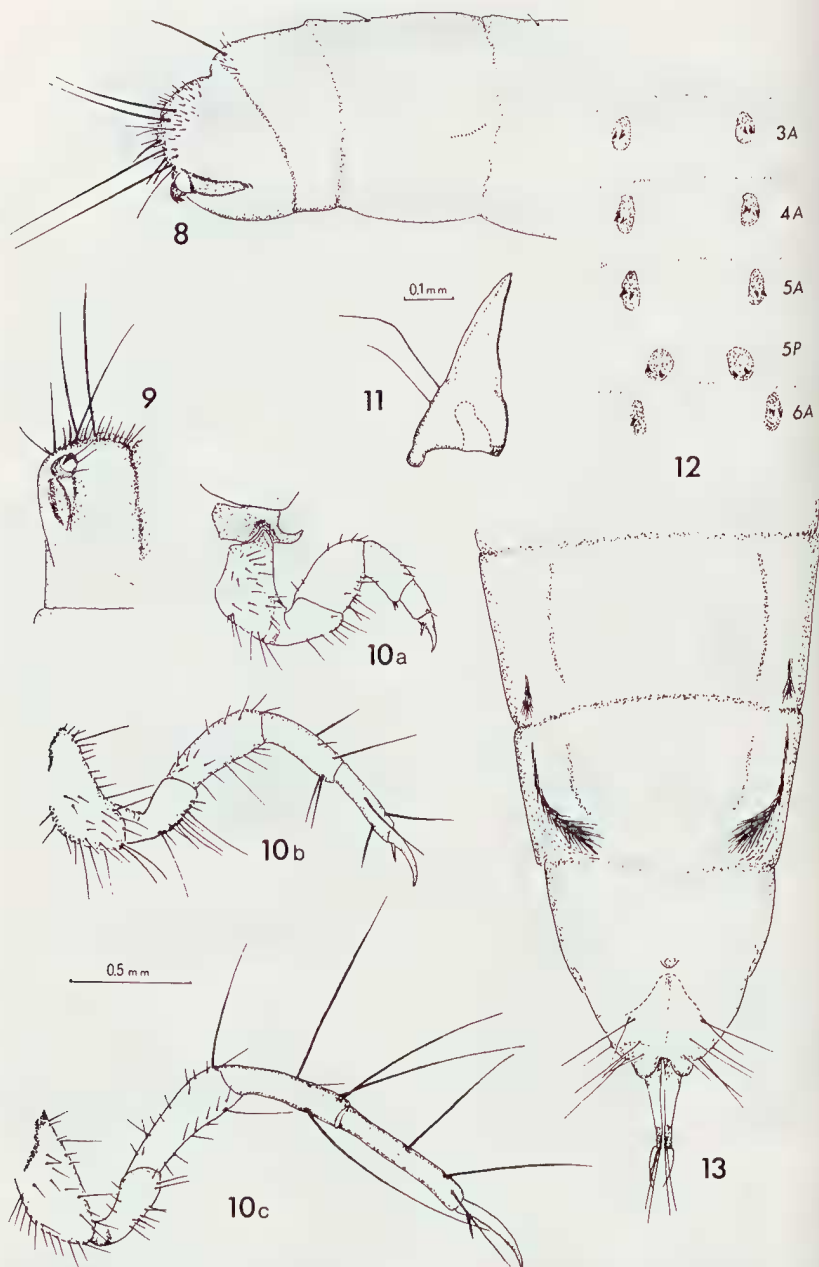
DESCRIPTION

Larva:— Maximum length 9.5 mm. Head (Figs 3, 6-7) round in frontal view, slightly flattened dorso-ventrally, covered with short spicules. Mandibles (Fig. 5) each with thick mesal brush of hair near base of inner margin, basal hairs longest; a pair of bristles on dorso-lateral margin towards base, one being long, dark, other short and pale; one to two low teeth sub-apically on each cutting edge. Antennae very short, close to, and just anteriorly of eyes.

Pronotum (Fig. 4) dark brown, with distinct mesal suture; anterior half densely covered with short spicules, posterior half with some muscle marks; anterior margin with 8-10 long, black setae, each with one or two shorter, yellowish setae interspersed. Mesonotum with only anterior half sclerotized, dark brown, median suture present, anterior margin with 8-12 dark setae, some shorter and some very short, pale setae interspersed. Metanotum not sclerotized, same



Figs 1-7. *Caloca saneva* (Mosely) larva: (1) case; (2) lateral view; (3) head dorsal; (4) thoracic segments dorsal; (5) mandibles ventral; (6) head ventral; (7) head lateral.



Figs 8-13. *Caloca saneva* (Mosely): (8) larva, last three abdominal segments lateral; (9) larva, left anal claw ventral; (10 a-c) larva, anterior, middle and posterior legs; (11) pupa, mandible ventral; (12) pupa, hookplates; (13) pupa, last three abdominal segments ventral.

colour as abdominal segments, a transverse band of small, sparse setae anteriorly. Thoracic sternites not sclerotized, pale. Anterior legs (Fig. 10) short and robust, middle and posterior legs subequal, posterior legs slightly more slender, with a few very long, conspicuous dark setae.

Abdominal segments (Fig. 2) without gills; dorsal and lateral spacing humps on segment 1 low, each with elongate sclerite and covered with short, pale yellowish spicules; venter with a pair of small, dark setae. Segments 2-6 with very small black setae, each segment with 2 dorsal and 1 ventral pair. Lateral comb of fine spicules on segment 8, curving antero-dorsally. Tergite 9 with two pairs of long, black setae on posterior margin, a few small, pale setae interspersed. Anal claw (Fig. 9) with small accessory hook; sclerotized area above anal claw with four long and some shorter, black setae and numerous pale setae.

Pupa:—Length 8.5 mm. Head with two pairs of bristles between and one in front of the eyes; one pair between the base of antennae. Labrum subquadrate, anterior angles rounded, with two pairs of setae; frontal margin slightly concave mesally; three pairs of setae near the baso-lateral angle. Mandibles (Fig. 11) symmetrical, elongate triangular, inner edge slightly convex, distal half minutely serrate, two basal bristles on outer margin.

Abdomen (Fig. 13) without gills; lateral line fringe extending from posterior quarter of segment 7 to posterior margin of segment 8. Hookplates (Fig. 12) anteriorly on segments 3-6, posteriorly on segment 5 only, usually with 2-3 hooks each. Anal processes broader at base, tapering distally, truncate apically with 3-4 terminal bristles.

Case:—Maximum length of larval case (Fig. 1) 11 mm, maximum width anteriorly 1.8 mm, tapered and curved; constructed of small sand grains which gradually increase in size anteriorly on dorsal side.

Pupal case 11 mm in length, small anterior extension added to larval case slightly narrower and somewhat looser in construction; dorsal margin formed into a short, loose lip; both ends closed with silken membranes; anterior membrane with narrow linear opening horizontally below centre, posterior one with similar linear opening horizontally at about centre.

Material examined:—TASMANIA: 6 ♂, 4 ♀, 1 ♀ pupa, 23 larvae, Tower Road nr Tooms Lake (pit-traps), 8-23 Sept. 1976, J. A. Friend; 200 ♂ ♀ (approx.), Tower Road, 20 m from Angler's Creek, wet sclerophyll forest (*Eucalyptus obliqua*, *Acacia mearnsii* and *Olearia argophylla*) with ferns (MV light) 17-19°C, 13 Oct. 1977, D. Coleman and J. A. Friend; 1 larva, 3 km SE of Tooms Lake, ex leaf litter from damp rainforest, 1 Mar. 1972, J. L. Hickman; 12 larvae, Fernglade nr Ferntree, 1975-1977, J. A. Friend. Specimens deposited in National Museum of Victoria, Melbourne.

Acknowledgements

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References

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